Fact Sheet

Air toxics monitoring at Harriet Tubman Leadership Academy in Portland

In 2009 and 2011, EPA completed two separate air toxics monitoring projects at Harriet Tubman School in North Portland as part of its nationwide school monitoring study.

EPA concluded that monitoring results indicated concentrations of the majority of air toxics measured near the school were below EPA's levels of concern associated with health problems from either short- or long-term exposures. Air toxics measured included acetaldehyde, benzene, cadmium, 1,3-butadiene, manganese and nickel. EPA posted the report at: http://www3.epa.gov/air/sat/HarrietTub.html

EPA's analysis also found that concentrations of cadmium, a toxic metal, are of potential concern for long-term continuous exposure.

DEQ studies also show higher cadmium

In 2005, DEQ collected air toxics data at six air toxics monitoring sites located throughout the Portland region. This data showed many areas of Portland are above health-based goals. Monitoring found the highest cadmium levels in north Portland.

DEQ has been studying cadmium and 18 other air toxics as part of the Portland Air Toxics Solutions project.

A DEQ modeling study showed that concentrations of cadmium and other air toxics in certain areas in Portland are expected to remain above the health-based benchmark for the foreseeable future.

DEQ investigates cadmium sources

DEQ has been investigating potential sources of cadmium near Harriet Tubman School since learning of the elevated levels in late 2009.

- DEQ has inventoried all known sources of cadmium, including permitted and non-permitted industrial and commercial sources, transportation and community-wide emissions sources.
- DEQ has analyzed monitoring data to project where the cadmium came from. Results indicate that the source(s) could be to the northwest or south of the monitor, but better wind information would be helpful in producing better results.

Air toxics monitor at Harriet Tubman

- DEQ canvassed businesses the Tubman School neighborhood to locate potential source(s). This effort was inconclusive.
- DEQ air quality permit writers requested cadmium information from several permitted industrial facilities in Northwest and North Portland but did not find one which emits significant amounts of cadmium.
- DEQ's Air Quality program worked with DEQ's Water Quality, Hazardous Waste and Cleanup Programs and the City of Portland Bureau of Environmental Services in the search of additional cadmium sources but did not find any.
- DEQ focused research and analysis on cadmium in Portland from June 2012 through September 2013 and concluded that there were likely multiple sources of cadmium, and recommended additional monitoring to identify specific sources.
- From February 2013 to the present, DEQ and U.S. Forest Service have collaborated to test new air pollution detection methods for urban settings. The agencies developed a project to analyze samples of moss taken from Portland trees, and to compare moss data to monitored and modeled air pollution data in Portland.
- In DEQ's ongoing efforts to identify specific sources of cadmium and arsenic emissions in Portland, DEQ requested that the US Forest Service analyze the moss samples for cadmium, arsenic and other metals.
- In June 2015, DEQ used the screening information from moss samples to identify art glass facilities in southeast and north Portland as potential sources of cadmium and arsenic.
- In October and November 2015, DEQ collected air samples near Bullseye Glass in

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southest Portland and analyzed them for cadmium, arsenic and other industrial metals
- In January 2016, DEQ determined that cadmium and arsenic concentrations were about 50 and 150 times above DEQ's health-based goals respectively and informed the community.
- In February 2016, Bullseye Glass in southeast Portland stopped using cadmium, arsenic and chromium. Uroboros Glass near Tubman School in north Portland stopped using cadmium and chromium.
- In February, DEQ began to test the air and soil near these glass facilities to get more information about any potential risks to the community.

Background on EPA's study at schools

As part of an initiative to understand whether outdoor toxic air pollution poses health concerns to schoolchildren, the Environmental Protection Agency performed short term monitoring for air toxics at 63 schools nationwide, including the Harriet Tubman Leadership Academy for Young Women in Portland.

Air toxics are pollutants known, or suspected to cause cancer and other serious health effects. EPA and DEQ regulate emissions of 187 air toxics under the Clean Air Act.

Selecting schools

EPA chose schools that could be affected by pollution from industry, motor vehicles, and other sources. Harriet Tubman Leadership Academy represents a school in an urban environment that is affected by multiple types of emissions. The other Oregon school EPA chose for this effort is Toledo Elementary School in Toledo which represents a rural school located near a large industrial facility.

Air toxics sources

Reducing toxic air pollution is one of the greatest challenges and one of the most pressing issues of our time. USA Today published an article highlighting the results of a study of air toxics near schools brought considerable attention to this issue. However, the study only looked at part of the problem by focusing on one source – large industrial facilities.

While people living near industrial facilities can experience higher exposure to emissions, most of our exposure to toxic air pollution is caused by a variety of other sources that collectively produce up to 90 percent of the toxic air pollution in Oregon's air. These sources include vehicle engines, fuel evaporation, outdoor burning, lawn and garden equipment and a wide variety of chemicals used by businesses and people.

Reducing air toxics in Oregon is a priority of the DEQ Air Quality program.

Both federal and state officials are working to reduce air toxics. Regulations on large and small manufacturers have resulted in considerable reductions of air toxics coming from many types of industrial processes. DEQ inspects facilities to make sure that they follow DEQ rules.

Though much more is needed to address air toxics in all areas of Oregon, DEQ has several long-standing programs that reduce toxic air pollutants:

- Vehicle inspection programs in the Portland and Rogue Valley areas
- Regulating emissions from industry and small businesses
- Assistance to small businesses to reduce the use of toxic chemicals
- Year-round air pollution advisories
- Assistance with diesel engine retrofits and replacement
- Anti-idling initiatives for heavy duty diesel and passenger cars and trucks
- Stricter wood stove requirements and change-out program

These programs have reduced levels of smog, fine particles as well as air toxics.

For more information

To learn more about toxic air pollution in Oregon and DEQ's air toxics reduction efforts go to www.deq.state.or.us/aq/toxics/index.htm.

For more information about monitoring for toxics at Oregon schools contact Madonna Navarez, EPA Region 10, 206-553-2117, narvaez.madonna@epa.gov.

Alternative formats

DEQ will provide this document in alternative formats (Braille, large type) on request. Contact 503-229-5696, or toll-free in Oregon at 1-800-452-4011, ext. 5696.